THE SOURCE

NEWSLETTER OF THE NHDES DRINKING WATER SOURCE PROTECTION PROGRAM
ON THE WEB AT *WWW.DES.NH.GOV/DWSPP*

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Junk Yards: Room for Improvement

Did you know that one quart of oil or a half cup of gasoline can contaminate as much as 250,000 gallons of drinking water? Oil and gasoline are common contaminants for drinking water supplies in New Hampshire. This is cause for concern with vehicle repair shops, gas stations, and motor vehicle recycling yards (MVRYs).

In 2003, DES revamped its educational efforts to make MVRY operators more aware of the potential impact they can have on New Hampshire's environment, including drinking water supplies. The educational effort is part of a two-phase program known as the NH Green Yards Program. The program is actively working with MVRYs that process 12 or more end-of-life vehicles (ELVs) yearly and/or keep 25 or more ELVs longer than 60 days.

In Phase I of the program, DES is teaching MVRYs about the need to use best management practices (BMPs) at their facilities to prevent groundwater contamination. Teaching tools include a shop manual of easy-to-read BMP guidance sheets, BMP training videos, statewide workshops on BMPs, and free, confidential on-site compliance assistance through the DES Pollution Prevention Program.

In Phase II of the Green Yards program, MVRY operators will be expected to regularly audit their facilities for compliance with certain core BMPs and, starting in 2007, annually submit written confirmation of compliance to DES and local licensing officials. To help MVRYs prepare for Phase II, DES inspectors are visiting facilities throughout the state to verify that BMPs are being implemented and provide on-site technical assistance about needed improvements. During the last quarter of 2005, DES inspectors visited approximately 110 of 188 listed facilities. DES plans to visit the remaining facilities in 2006.

The BMP evaluation reports indicate many MVRYs have made substantial improvements since the program began in 2003. For example, roughly 30 percent more yards now handle fluids over an impervious spill control surface rather than bare ground and roughly 60 percent more yards store their fluids inside secondary containment under a roof, as required by state rules. However, the BMP evaluation reports also indicate there is still room for substantial improvement. Few MVRYs are fully implementing all of the BMPs. Fluid management issues are of primary concern. For example, roughly 30 percent of the inspected yards do not remove fluids before storing ELVs, 21 percent still drain vehicles over bare ground, and 37 percent do not properly label their fluid containers. In addition, due to evident spills or leaks, a few MVRYs were referred to the DES Oil Remediation and Compliance Bureau for further investigation due to possible groundwater contamination.

The results of the inspections show DES where improvements are needed in the Phase I education efforts and where to concentrate the agency's limited resources for compliance assurance. While voluntary and sustained compliance is the main objective of the Green Yards Program, DES is also working to build incentives for MVRYs to "go beyond compliance." With the help of 28 volunteer MVRYs, DES is currently "test driving" a process that gives special recognition to MVRYs that operate in a manner that is above and beyond compliance. The process allows MVRYs that use exemplary environmental work practices and meet certain other criteria to earn the designation "Certified NH Green Yard."

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Spotlight on ... the Town of Hollis

The town of Hollis is this year's recipient of DES's Source Water Protection Award. The award recognizes a water system, municipality, organization, or person for exemplary efforts to protect drinking water sources. Hollis was chosen for its zoning ordinances to protect groundwater and surface water, its extensive protection of conservation lands, and its private well testing program.

Hollis was chosen from among a short list of communities who had adopted local ordinances to protect both groundwater and streams. Those communities were identified in cooperation with the New Hampshire Office of Energy and Planning (OEP). Over the past year, DES and OEP have collaborated to catalog the key local ordinances that help protect drinking water resources statewide.

Hollis' Aquifer Protection Overlay Zone protects all of the town's mapped stratified-drift aquifer areas. In this zone, 13 high-risk land uses are prohibited, and all permitted uses must employ best management practices and meet district-specific performance standards for groundwater protection. Over the aquifer serving the Hollis school system, the Water Supply Conservation Zone further limits land use to single-family residences on two-acre lots. The town's Wetland Conservation Zone protects a 100-foot buffer around wetlands and surface waters, and includes a significant portion of the streams and wetlands in the watershed for Pennichuck Brook, the main water supply source for Nashua and portions of surrounding towns.

In contrast with Nashua, Hollis residents rely almost entirely on private wells. Recognizing the importance of groundwater and private wells in particular, Hollis conducted a groundwater study during the past year in partnership with the New Hampshire Geological Survey (NHGS), a unit of DES. Residents located their well records, collected samples from their wells, and paid for the enhanced analysis that was arranged by NHGS. The results gave new insights into groundwater quality issues such as arsenic and road salt, and now Hollis has one of the most comprehensive groundwater water quality databases of any town in New Hampshire.

DES presented the award at its annual Source Water Protection Workshop on May 18. For more information about Hollis' source water protection activities, please contact Virginia Mills at (603) 465-3446.

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Thus far, 14 of the 28 volunteers have met the requirements and now fly a Certified NH Green Yards flag at their facilities to showcase their achievement. After DES completes the pilot program, it will consider ways to institutionalize the program and open it to all MVRYs as an incentive for excellent performance.

For more information on NH Green Yards visit www.des.nh.gov/sw/GreenYards/ or contact Pam Sprague at (603) 271-2938 or psprague@des.state.nh.us.

For more information on the Drinking Water Source Protection BMP program or to receive training visit www.des.nh.gov/dwspp/bmps.htm or contact Diana Morgan at (603) 271-2947 or dmorgan@des.state.nh.us.

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Sometimes, High-Density Development Is Better

Low-density or large-lot zoning has long been used as a means of preserving rural character, limiting impervious area, and ensuring dilution of septic system discharges. Low-density zoning has its place, but a pair of reports published earlier this year by the U.S. Environmental Protection Agency show how community-wide or watershed-wide use of low-density zoning can increase the cost of water infrastructure, increase per capita water demand, increase water system operating costs, and even increase the percentage of impervious area associated with stream degradation.

In *Growing Toward More Efficient Water Use: Linking Development, Infrastructure, and Drinking Water Policies,* the authors cite research showing that homes on larger lots use more water, require longer transmission lines, and increase pumping costs. The report also summarizes a variety of strategies to address these problems, such as zone pricing (higher water rates in areas where it costs more to deliver water), conservation water rates such as increasing block rates, higher impact fees for development outside urban in-fill zones, and financial incentives for homeowners to use landscaping practices that demand less water.

Protecting Water Resources with Higher-Density Development demonstrates that low-density development tends to have more impervious area per housing unit as a result of greater road, driveway, and lawn areas. (Watersheds with impervious areas of greater than 10 percent are often associated with stream degradation as a result of hydrologic changes and pollutant loadings.) For a given number of housing units, high-density development disturbs less area, has less impervious area, and generates less stormwater volume. A better alternative, the authors argue, is to concentrate development on smaller lots while leaving larger areas undisturbed, as in cluster developments. This approach makes it easier to preserve sensitive areas such as stream corridors and wellhead protection areas, while accommodating growth. While this is not a new approach, this report makes a strong case for water suppliers to advocate for the cluster approach in water supply watersheds and where clustering can be used to preserve open space in wellhead protection areas.

Both reports are available online at www.epa.gov/dced/ or from EPA at (202) 566-2878.

Recent and Upcoming Source Water Protection Events

On Earth Day, April 22, the Green Mountain Conservation Group hosted a conference on groundwater at the Cody Education Center in Freedom, N.H. The conference provided an overview of important concepts concerning hydrology and geology, legal and regulatory issues regarding water use, and current approaches to groundwater and watershed protection. Speakers from the EPA, DES and local governments took part in the day-long event designed to provide the public with tools and information to better protect local drinking water supplies. Minutes and presentations are posted online at the Green Mountain Conservation Group's website at www.gmcg.org/gmcg.php?id=137. Financial support for the conference was provided by EPA Region I – New England.

On May 18 approximately 120 municipal planners, community volunteer board members, municipal staff, and consultants attended the 2006 Source Water Protection Workshop held in Concord at DES. Workshop presentations dealt with septic system management, auto salvage yard inspections and BMPs for that industry, the design and use of advanced bioretention systems to treat stormwater, and case studies on integrated water management techniques to reduce water use, runoff and sustain clean recharge. All of the presentations are posted and can be downloaded from www.des.nh.gov/dwspp/workshops.htm or you can request a paper copy at (603) 271-0688 or prigrod@des.state.nh.us.

On October 12 the New England Water Works Association will present its fall symposium entitled "Why Water Suppliers Should Care About Stormwater Management" at UNH, Durham. The event is designed for water suppliers and will present topics concerning how to minimize stormwater quantity, evaluate stormwater quality, employ effective BMPs and land use controls, and manage stormwater at contaminated sites. For more information call NEWWA, (508) 893-7979 or visit www.newwa.org.

Water Supply Grants

The Water Supply Land Grant Program allows DES to make 25 percent matching grants to municipal water suppliers for the purchase of land or conservation easements critical to their water quality. These water supply lands must be currently unprotected and within the wellhead protection area for a groundwater source or within the source water protection area and within five miles of the intake of a surface water source.

DES currently has $1.5 million for this grant round and is soliciting eligibility applications for projects. Eligibility applications are due September 1, 2006.

Please visit www.des.nh.gov/dwspp/acqui.htm for more information or contact Sarah Pillsbury at (603) 271-1168 or spillsbury@des.state.nh.us.

Postcards regarding the 2007 Local Source Water Protection Grant Program were mailed out to water systems, RPCs, and consultants in April and applications are due November 1, 2006.

This grant program is available to develop and implement programs to protect existing sources of drinking water. Up to $15,000 can be awarded for projects.

Please visit www.des.nh.gov/dwspp/grants.htm for more information or contact Paul Susca, Pierce Rigrod, or Johnna McKenna at (603) 271-2513.

Powerful New Source Water Protection Planning Tool Available

In New Hampshire, municipalities are the primary regulators of what types of development occur where, and how developments are designed. How communities protect surface or groundwater drinking water sources during the land use development process varies significantly from community to community. Recently, the Source Water Protection Program collaborated with the New Hampshire Office of Energy and Planning (OEP) and the Ground Water Protection Council (GWPC) to develop a statewide database of local source water protections.

Each year, OEP surveys municipalities concerning the status of local land use planning, zoning ordinances, and regulations. At DES's request, OEP modified its 2005 survey to include a series of questions concerning local ordinances to protect aquifers, groundwater, shoreland areas, and water supply watersheds. DES then worked with GWPC to review the relevant local ordinances and regulations identified in the OEP survey.

GWPC's contractor entered information about the provisions of each ordinance into a database developed by DES. This database will be valuable to local and regional planners interested in identifying which New Hampshire communities have source water protection ordinances with specific provisions. For example, a search of the database will reveal which municipalities have a 50-foot or 100-foot buffer for streams and which prohibit underground storage tanks in their aquifer protection districts.

The final portion of the project, which the Source Water Protection Program hopes to complete this fall, involves geo-referencing the data on local ordinances. Once completed, the tabular and related spatial data will provide a powerful tool to coordinate source water protection across municipal boundaries, target state resources, and aid municipalities in source water protection planning.

For more information on this project please contact Pierce Rigrod at (603) 217-0688 or prigrod@des.state.nh.us.

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